



PS-04N

Dual Pressure Switch



Features

- / Stainless steel connection
- / Self-monitoring
- / Two setpoints
- / Analogue output
- / 4-digit 14-segment LED-display
- / Adjustable keypad lock

Description:

The PS-04N dual pressure switch consists of a pressure sensor with downstream electronic component. Built in a compact stainless steel housing, conceived for rough industrial conditions to make it stable against interference and shock and vibration-proof, it offers to the user everything that today's state-of-the-art pressure measurement and monitoring technology demands. The pressure is sensed by a ceramic or a piezoresistive sensor. Its accuracy rating is 0.5% of full scale value and the repeatability better than 0.1% full scale. This meets any requirement. The PS-04N is controlled by a microprocessor and capable of self-monitoring with error output. Its maximum configuration offers 2 transistor limiting contacts with adjustable setpoint, adjustable hysteresis and adjustable time lag. The measured value is legibly displayed on a digital connection display and, additionally, put out through a 4. .20 mA or 0. .10 VDC socket. All parameters can be easily programmed by means of a diaphragm keypad.

Application:

With its pressure range of 0 bar up to 600 bar, the PS-04N dual pressure switch covers a wide spectrum of applications and, therefore, is used across all types of industries. Typical applications are the accumulator charge connection, the locking pressure monitoring and the lubricant control, to name a few. For example, the additional analogous signal can be used for regulating pressure or for reporting functions. Using only one device, the user has simultaneously two setpoints, an onsite display an analogous output for remote transmission, thus replacing a pressure gauge, a mechanical pressure switch and a pressure sensor.



Technical Specifications:

| | |
|---|--|
| max. Ambient temp. / | -10...+70°C |
| max. Storage temp. / | -30...+80°C |
| max. Media temp. / | -25...+100°C |
| Compensated range / | -10...+70°C |
| Temperature influence for zero-point / | $< \pm 0.2\%$ of full scale / 10 K |
| Temperature influence on Measuring range / | $< \pm 0.3\%$ of full scale / 10 K |
| Linearity error / | $< \pm 0.5\%$ of full scale at 25°C |
| Repeatability / | $\pm 0.1\%$ of full scale |
| Resolution / | 12 Bit (4096 steps per meas. span) |
| Scan rate / | 1000/s |
| Weight / | ca. 200 g |
| Dimensions / | 110 x 41 mm without counter plug |
| Operating elements / | 3 press keys with perceptible pressure point |
| Sensor element / | ceramics or piezoresistive |
| Process connection / | G- or NPT-1/4"-male thread or 1/2"-male thread front flush |
| Wetted parts / | st. steel 1.4301, brass MS58, FKM or EPDM |

Electrical Specifications:

| | |
|--|--|
| Display / | 4-digit 14-segment LED-display, height of digits 9 mm, red |
| Connection / | plug connector M12 x 1, 4- or 5-wire |
| Protection class / | IP65, Class III (IP67 on request) |
| Supply voltage / | 15 VDC up to 32 VDC, reverse polarity protected (SELV, PELV) |
| Power consumption / | ca. 50mA without load |
| Shock resistance / | 50 g (11 ms) as per DIN EN 60028-2-27 |
| Vibration / | 20 g (10...2000 Hz) as per DIN EN 60028-2-26 |
| Analogue outputs / | |
| Power output: | 4...20 mA |
| Voltage output: | 0...10 VDC |
| Load: | max. 10 mA |
| Adjusting range: | 25...100% of full scale |
| Refreshing rate: | 2 ms |
| PNP-Transistor-Switching-outputs / | |
| Switching function: | NO / NC, window and diagnostic modes adjustable |
| Load: | max. 500 mA, short-circuit safe |
| Adjustability of setpoint and resetpoint: | 0...125% of full scale |
| Delay: | 0...50s adjustable |
| Switching Frequency: | max. 100 Hz |
| Display: | LED(s) red |



Versions:

PS-04N Dual Pressure Switch

Electronic housing:

The electronic housing is made from the materials stainless steel V2A, FKM and PA/PC. The pressure connection is 320° turnable against the housing.

Sealing:

Depending on the media, choice is possible from among: FKM, e.g. for hydraulic oil and EPDM, e.g. for brake fluid.

Operating range:

The ranges from 0...0.2 bar up to 0...600 bar are standard ranges. Special operating ranges are available on request.

Outputs:

The full version of PS-04N provide two PNP transistor outputs and an additional analogue output at standard. Other versions are downgraded in several steps.

Process connection:

The user may choose between G1/4"-male thread, 1/4"-NPT-male thread, G1/2"-front flush diaphragm with male thread connection and 1/2"-NPT-front flush diaphragm with male thread connection. Front flush versions are always equipped with a piezoresistive sensor element. UNF- and CETOP-connections are available on request.

Sensor:

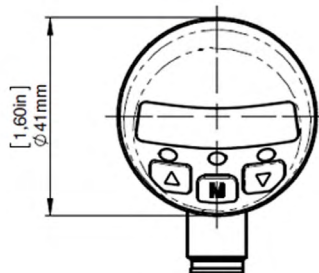
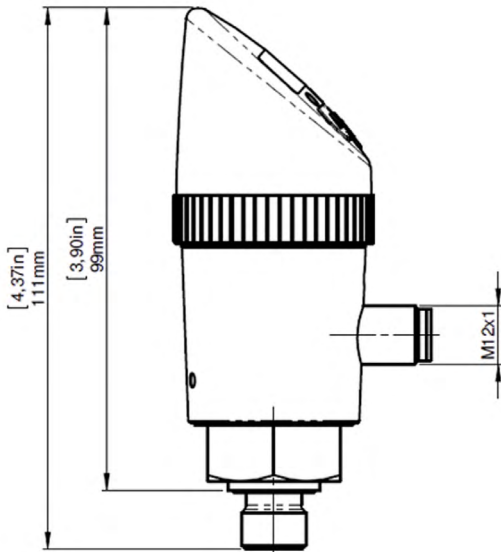
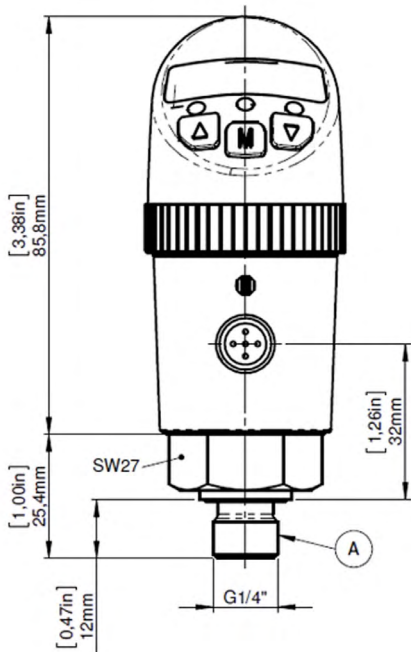
The PS-04N is equipped with a piezoresistive sensor element at standard. Operating ranges from 0...10 bar rel. up to 0...400 bar rel. can also be equipped with a sensor element from ceramics.

Ordering Codes:

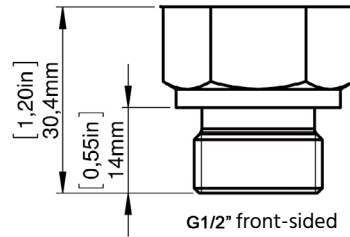
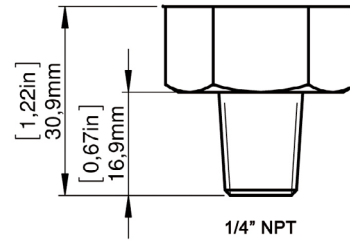
| Order no. | PS-04N. | 3. | 1. | R100. | 5. | 1. | P |
|---|---------|----|----|-------|----|----|---|
| PS-04N Dual Pressure Switch | | | | | | | |
| Electronic housing / 3 = st. steel | | | | | | | |
| Sealing / 1 = FKM 3 = EPDM | | | | | | | |
| Operating range / A01 = 0...1 bar absolut (piezoresistive Sensor) A05 = 0...5 bar absolut (piezoresistive Sensor) A10 = 0...10 bar absolut (piezoresistive Sensor) RP02 = 0...0.2 bar rel. (piezoresistive Sensor) RP05 = 0...0.5 bar rel. (piezoresistive Sensor) R001 = 0...1 bar rel. (piezoresistive Sensor) R002 = 0...2 bar rel. (piezoresistive Sensor) R005 = 0...5 bar rel. (piezoresistive Sensor) R010 = 0...10 bar rel. R050 = 0...50 bar rel. R100 = 0...100 bar rel. R200 = 0...200 bar rel. R400 = 0...400 bar rel. R600 = 0...600 bar rel. (piezoresistive Sensor) | | | | | | | |
| Outputs / 1 = 2 transistor outputs (PNP) 2 = 1 transistor output (PNP) and 1 analogue output 4...20 mA 3 = 1 transistor output (PNP) and 1 analogue output 0...10 VDC 4 = 2 transistor outputs (PNP) and 1 analogue output 4...20 mA 5 = 2 transistor outputs (PNP) and 1 analogue output 0...10 VDC | | | | | | | |
| Process connection / 1 = G1/4"-male thread 2 = G1/2"-front flush diaphragm male thread (piezoresistive sensor)** 3 = 1/4"-NPT-male thread 4 = 1/2"-NPT-front flush diaphragm male thread (piezoresistive sensor)** | | | | | | | |
| Sensor / P = piezoresistive sensor element K = sensor element from ceramics | | | | | | | |
| ** 10...600 bar only | | | | | | | |



Dimensions in mm:



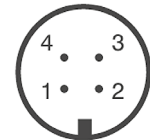
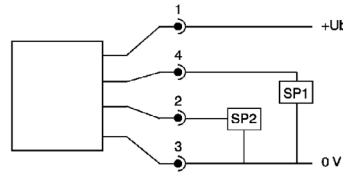
Process connection /



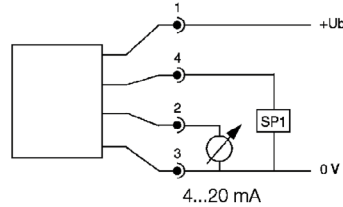
Electrical connection and plug connection /

Version: 2 switching outputs

plug 4-pole

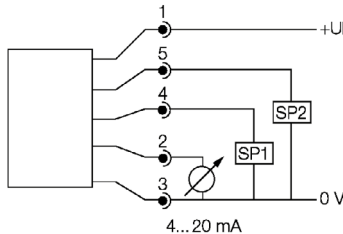


Version: 1 switching output + 1 Analogue



Version: 2 switching outputs + 1 Analogue

plug 5-pole



| Plug connector M12x1, 4/5-wire | Version with 1 switching output | Version with 2 switching outputs | Version with 1 switching and 1 analogue output | Version with 2 switching and 1 analogue output |
|-----------------------------------|---------------------------------------|--|--|--|
|-----------------------------------|---------------------------------------|--|--|--|

| | | | | |
|---------------|-----------------|-----------------|----------------------------------|----------------------------------|
| Pin 1 (brown) | +Ub 15...32 VDC | +Ub 15...32 VDC | +Ub 15...32 VDC | +Ub 15...32 VDC |
| Pin 2 (white) | not connected | SP2 (0,5A max.) | analogue 4...20 mA or 0...10 VDC | analogue 4...20 mA or 0...10 VDC |
| Pin 3 (blue) | 0V | 0V | 0V | 0V |
| Pin 4 (black) | SP1 (0,5A max.) | SP1 (0,5A max.) | SP1 (0,5A max.) | SP1 (0,5A max.) |
| Pin 5 (grey) | not connected | not connected | not connected | SP2 (0,5A max.) |